

In the Claims

Please amend Claims 1-20 as follows:

1 1. (Amended) An electrical device for self-clocked controlled pseudo random noise
2 (PN) sequence generation, comprising:
3 a plurality of sequence generator units for outputting a plurality of sequence values (Z_t) on the
4 basis of a plurality of clock values (C_t), and
5 step pattern generators for selecting a step pattern, comprising said plurality of clock values (C_t),
6 from a plurality of possible step patterns on the basis of a step pattern select signal (W_t).

1 2. (Amended) An electrical device according to claim 1, wherein said step pattern
2 select signal (W_t) is derived on the basis of a combined value (U_t) and one or more previously derived
3 step pattern select signals (W_{t-1}).

1 3. (Amended) An electrical device according to claim 2, wherein said plurality of
2 sequence generator units further outputs a plurality of step control values (u_t), and
3 said combined value (U_t) is provided on the basis of said plurality of step control values (u_t) and
4 on the basis of a plurality of prior clock values (C_{t-1}).

1 4. (Amended) An electrical device according to claim 2, wherein the number of said
2 plurality of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as:
3 $U_t + W_{t-1} \text{ MOD } 6$.

1 5. (Amended) An electrical device according to claim 2, wherein the number of said
2 plurality of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as:
3 $U_t + a_1 W_{t-1} + a_2 W_{t-2} + a_3 W_{t-3} \text{ MOD } 6$, where a_1 , a_2 , and a_3 are pre-selected constants.

At 6
1 6. (Amended) An electrical device according to claim 2, wherein if the number of said
2 plurality of possible step patterns is not a prime number, then said pattern select signal (W_t) is derived
3 on the basis of said combined value (U_t) and said previously derived step pattern select signals (W_{t-1})
4 using a Chinese remaindering technique.

1 7. (Amended) An electrical device according to claim 1, wherein said plurality of
2 possible step patterns includes (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

1 8. (Amended) An electrical device according to claim 1, wherein said device further
2 comprises a function generating unit for calculating an output value (Out_t) as the sum of said plurality of
3 sequence values (Z_t) MOD 2.

1 9. (Amended) An electrical device according to claim 1, wherein said plurality of
2 sequence generator units comprise m-sequence generators.

1 10. (Amended) An electrical device according to claim 1, wherein said device is used

2 in a mobile telephone.

1 11. (Amended) A method of self clock controlled pseudo random noise (PN) sequence
2 generation, comprising the steps of:

3 outputting a plurality of sequence values (Z_t) on the basis of a plurality of clock values (C_t), and
4 selecting a step pattern, providing said plurality of clock values (C_t), from a plurality of possible
5 step patterns on the basis of a step pattern select signal (W_t).

1 12. (Amended) A method according to claim 11, wherein said step pattern select signal
2 (W_t) is derived on the basis of a combined value (U_t) and one or more previously derived step pattern
3 select signals (W_{t-1}).

1 13. (Amended) A method according to claim 12, wherein a plurality of step control
2 values (u_t) is output, and wherein said combined value (U_t) is provided on the basis of said plurality of
3 step control values (u_t) and on the basis of a plurality of prior clock values (C_{t-1}).

1 14. (Amended) A method according to claim 12, wherein the number of said plurality
2 of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as:
3 $U_t + W_{t-1} \text{ MOD } 6$.

1 15. (Amended) A method according to claim 12, wherein the number of said plurality

2 of possible step patterns is 6, and wherein said pattern select signal (W_t) is derived as: $U_t + a_1 W_{t-1} +$
3 $a_2 W_{t-2} + a_3 W_{t-3} \text{ MOD } 6$, where a_1 , a_2 , and a_3 are pre-selected constants.

1 16. (Amended) A method according to claim 12, wherein said pattern select signal (W_t)
2 is derived on the basis of said combined value (U_t) and said previously derived step pattern select
3 signals (W_{t-1}) using a Chinese remaindering technique, if the number of said plurality of possible step
4 patterns is not a prime number.

1 17. (Amended) A method according to claim 11, wherein said plurality of possible step
2 patterns is: (0,0,1,1), (0,1,0,1), (1,0,0,1), (0,1,1,0), (1,0,1,0), (1,1,0,0).

1 18. (Amended) A method according to claim 11, wherein said method further comprises
2 the step of calculating a value (Out_t) as the sum of said plurality of sequence values (Z_t) MOD 2.

1 19. (Amended) A method according to claim 11, wherein said plurality of sequence
2 values (Z_t) is generated by a plurality of m-sequence generators.

1 20. (Amended) A method according to claim 11, wherein said method is used in a
2 mobile telephone.